

Question 1: Top 5 Brands by Receipts Scanned for the Most Recent Month

```
WITH RecentMonthReceipts AS (  
  SELECT  
    r.receiptId,  
    b.brand_id,  
    b.brand_name,  
    DATE_TRUNC('month', r.createDate) AS month  
  FROM  
    Receipts r  
  JOIN  
    Transactions t ON r.receiptId = t.receiptId  
  JOIN  
    Items i ON t.Barcode = i.barcode  
  JOIN  
    Brand b ON i.brandName = b.brand_name  
  WHERE  
    r.createDate >= DATE_TRUNC('month', CURRENT_DATE) - INTERVAL '1 month'  
    AND r.createDate < DATE_TRUNC('month', CURRENT_DATE)  
)  
SELECT  
  b.brand_name,  
  COUNT(r.receiptId) AS receipts_count  
FROM  
  RecentMonthReceipts r  
JOIN  
  Brand b ON r.brand_id = b.brand_id  
GROUP BY  
  b.brand_name  
ORDER BY  
  receipts_count DESC  
LIMIT 5;
```

Question 2: Average Spend from Receipts with 'Accepted' or 'Rejected' Status

```
SELECT  
  rewardsReceiptStatus,  
  AVG(totalSpent) AS average_spend  
FROM  
  Receipts  
WHERE  
  rewardsReceiptStatus IN ('Accepted', 'Rejected')  
GROUP BY  
  rewardsReceiptStatus;
```

Question 3: Total Number of Items Purchased from Receipts with 'Accepted' or 'Rejected' Status

```
SELECT
    r.rewardsReceiptStatus,
    SUM(t.quantityPurchase) AS total_items_purchased
FROM
    Receipts r
JOIN
    Transactions t ON r.receiptId = t.receiptId
WHERE
    r.rewardsReceiptStatus IN ('Accepted', 'Rejected')
GROUP BY
    r.rewardsReceiptStatus;
```

Question 4: Brand with the Most Spend Among Users Created Within the Past 6 Months

```
WITH RecentUsers AS (
    SELECT
        userId
    FROM
        Users
    WHERE
        createdDate >= CURRENT_DATE - INTERVAL '6 months'
)
SELECT
    b.brand_name,
    SUM(r.totalSpent) AS total_spend
FROM
    Receipts r
JOIN
    Transactions t ON r.receiptId = t.receiptId
JOIN
    Items i ON t.Barcode = i.barcode
JOIN
    Brand b ON i.brandName = b.brand_name
WHERE
    r.userId IN (SELECT userId FROM RecentUsers)
GROUP BY
    b.brand_name
ORDER BY
    total_spend DESC
LIMIT 1;
```

Question 5: Brand with the Most Transactions Among Users Created Within the Past 6 Months

```
WITH RecentUsers AS (  
    SELECT  
        userId  
    FROM  
        Users  
    WHERE  
        createdDate >= CURRENT_DATE - INTERVAL '6 months'  
)  
SELECT  
    b.brand_name,  
    COUNT(t.transaction_id) AS total_transactions  
FROM  
    Receipts r  
JOIN  
    Transactions t ON r.receiptId = t.receiptId  
JOIN  
    Items i ON t.Barcode = i.barcode  
JOIN  
    Brand b ON i.brandName = b.brand_name  
WHERE  
    r.userId IN (SELECT userId FROM RecentUsers)  
GROUP BY  
    b.brand_name  
ORDER BY  
    total_transactions DESC  
LIMIT 1;
```